DEPARTMENT OF THE ARMY
OFFICE OF THE DEPUTY CHIEF OF STAFF, G-9
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WASHINGTON, DC 20310-0600

08 April 2020

Mr. Bob Morse
US EPA Region 2
Special Projects Branch/Federal Facilities Section
290 Broadway, 18th Floor
New York, NY 10007-1866

Ms. Melissa Sweet
New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7015

Mr. Mark Sergott
Bureau of Environmental Exposure Investigation
Empire State Plaza Corning Tower, Room 1787
Albany, NY 12237

SUBJECT: Final Technical Memorandum for the PFAS Expanded Site Investigation (ESI) at the Fire House, SEAD 25 and SEAD 26 at Seneca Army Depot Activity in Romulus, NY; EPA Site ID# NY0213820830 and NY Site ID# 8-50-006

Dear Mr. Morse/Ms. Sweet/Mr. Sergott:

Please find attached the Final Technical Memorandum for the PFAS Expanded Site Investigation (ESI) at the Fire House, SEAD 25 and SEAD 26 at Seneca Army Depot Activity in Romulus, NY. This technical memo presents data gaps and recommendations for future investigation to evaluate the nature and extent of impacts on groundwater, surface water and soil at three sites impacted by PFAS constituents. Comments on the Draft technical memo were received from the New York State Department of Environmental Conservation (NYSDEC) / New York State Department of Health (NYSDOH) and US Environmental Protection Agency (USEPA) on 11 February 2020 and 20 March 2020, respectively. Responses to the comments are attached and were incorporated into the Final memorandum.

If you have any questions about the attached document, please call me at 347-271-0226.

Sincerely,

James T. Moore, PMP
Acting Base Environmental Coordinator
Corps of Engineers, Project Manager

cc: C. Heaton, CEHNC
B. Hodges, CEHNC
B. Badik, Parsons

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TECHNICAL MEMORANDUM

This Technical Memorandum provides a review of the data collected during Phase II of the Expanded Site Investigation (ESI) for per- and polyfluoroalkyl substances (PFAS) at the Fire House, SEAD 25, and SEAD 26 at the Seneca Army Depot Activity (SEDA or Depot) in Seneca County, New York. Based on the results collected during the Site Investigation and Phase I of the ESI, data gaps in the nature and extent of the site characterization and recommendations for the path forward are presented.

The Phase II PFAS field event was conducted during the fall of 2019. Groundwater wells were installed in September 2019 and the groundwater samples were collected in October 2019 from a total of 10 wells:

- 3 wells at the Fire House
- 5 wells at SEAD 25
- 2 wells at SEAD 26

The locations of the groundwater wells and a summary of the SI and ESI data are presented on Figures 1, 2A, and 2B. Analytical data for Phase I and Phase II are provided in Table 1.

Data Gap Evaluation and Recommendations

The goal of the ESI is to characterize the nature and extent of all potential media of concern. The identified data gaps and the associated recommendations for each of the three areas are presented below and proposed sample locations are presented in Figures 3 and 4.

Fire House:

Data Gaps	Recommendations for future investigation
• Source area not delineated to the north. Unknown whether the concentrations at MWFH-04 and MWFH-05 represent the Fire House source or if the source area extends further upgradient • Impacts to soil, surface water and stormwater runoff not evaluated • Impacts in bedrock are not defined	• Install 3 new wells (MWFH-06, MWFH-07, and MWFH-08) in an east-west line upgradient of the current wells MWFH-04 and MWFH-05 (between East Patrol Road and the SEDA boundary) to identify if there are impacts further upgradient of the Fire House • Evaluate surface water and drainage pathways between the Fire House and SEAD 25 and potential PFAS impacts • Sample identified surface water pathways (SWFH-01, SWFH-02, and SWFH-03) • After the source area is identified, install a deep/shallow bedrock well pair (MWFH-09/D) in the source area to evaluate deeper impacts. Install an additional bedrock well pair (MWFH-10/D) in the downgradient direction if the first well pair are impacted • Collect three subsurface (6 – 36 inches bgs) soil samples (SBFH-01, SBFH-02 and SBFH-03) in the suspected source area and include SPLP analysis • Collect a second round of PFAS groundwater samples from all previous locations to confirm presence and magnitude of PFAS concentrations in groundwater

SEAD-25:

Data Gaps	Recommendations for future investigation
• Impacts in the bedrock are not defined • Further evaluate surface water pathways, particularly downgradient of SW25-02 • Impacts to the source area soil are not defined • With consideration that the NYS promulgated standard will likely change to detections of PFOA or PFOS at or above 10 ng/L (from the current 70 ng/L), the groundwater downgradient of MW25-28 should be further evaluated to define location of the 10 ng/L contour.	• Install two deep/shallow bedrock well pairs and one bedrock well: one pair (MW25-31/D) in the source area between MW25-2 and MW25-9, one pair (MW25-34/D) at the downgradient confluence of local drainage discharges and a bedrock well (MW25-22D) near MW25-22 • Recollect surface water samples at locations SW25-01 and SW25-02 and collect additional surface water samples as previously proposed: downgradient of SW25-02 and in other drainages upgradient (SW25-03) and downgradient of the source area (SW25-04, SW25-05 and SW25-06) • Install new shallow well (MW25-32) downgradient of MW25-28 • Collect three subsurface (6 – 36 inches bgs) soil samples (SB25-17, SB25-18 and SB25-19) in the suspected source area and include SPLP analysis • Collect a second round of PFAS groundwater samples from all previous locations to confirm presence and magnitude of PFAS concentrations in groundwater

SEAD-26:

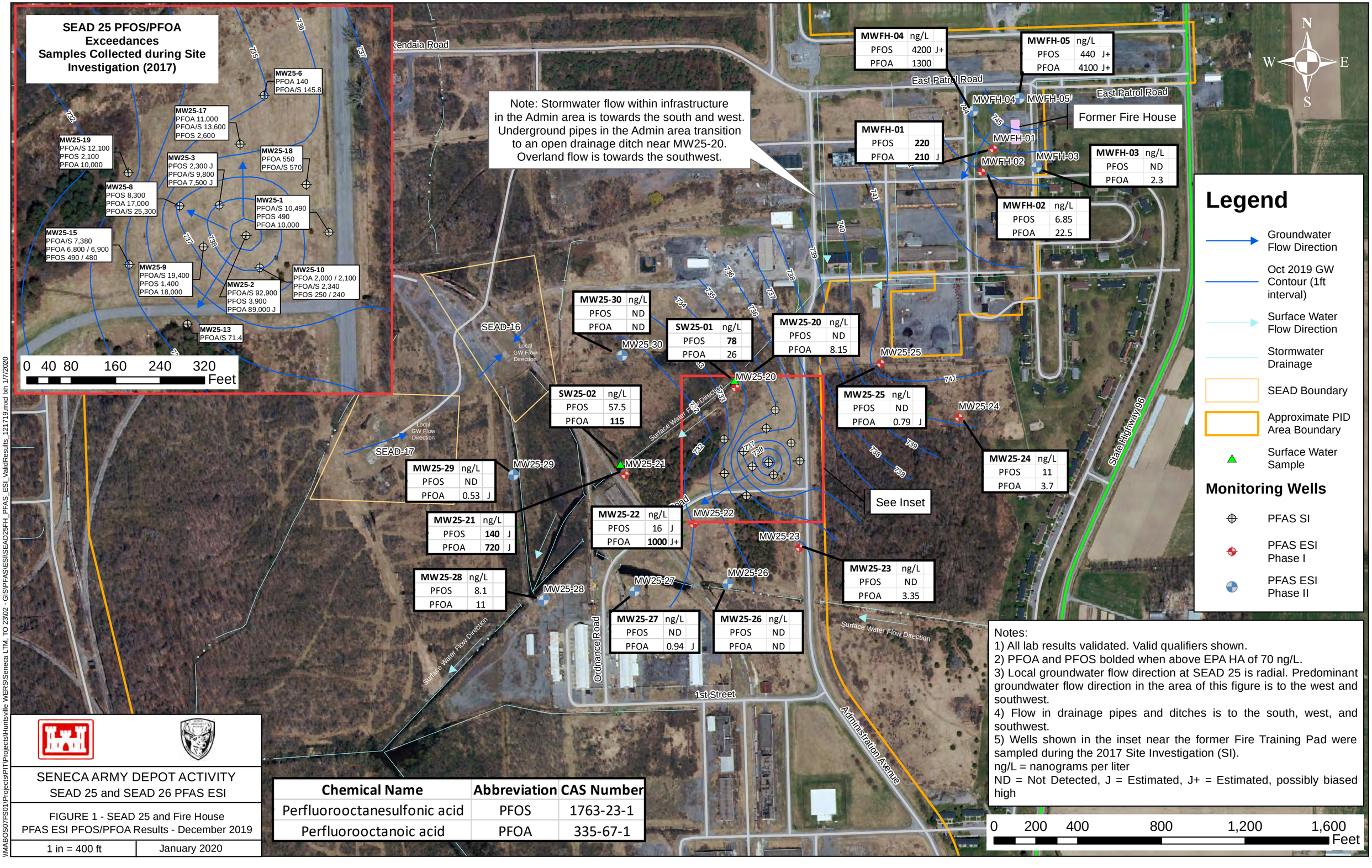
Data Gaps	Recommendations for future investigation
• Plume as currently defined is very narrow and the plume toe is not defined to less than 10 ng/L • Surface water is not characterized • Impacts to the source area soil are not defined • Impacts in the bedrock are not defined	• Add two wells (MW26-21 and MW26-22) side-gradient of MW26-20 (to the north and south) at a spacing similar to the spacing of MW26-15, MW26-16, MW26-17 to further define groundwater flow direction and plume width • Based on data from the two new wells, install three more shallow wells and one bedrock well (MW26-23, MW26-24/D, and MW26-25) further downgradient (west) close to the road to define the plume toe • Collect surface water samples (SW26-01 thru SW26-05) to characterize potential impacts to surface water • Install one deep/shallow bedrock well pair (MW26-28/D) and one bedrock well (MW26-32D): the well pair near the source (TMW26-3) and a the bedrock well downgradient (west) near shallow well MW26-16 to evaluate deeper impacts • Collect three subsurface (6 – 36 inches bgs) soil samples (SB26-13, SB26-14, SB26-15, SB26-16 and SB26-17) in the suspected source area and include SPLP analysis

	• Collect a second round of PFAS groundwater samples from all previous locations to confirm presence and magnitude of PFAS concentrations in groundwater

Notes:

1) Shallow wells will target the upper till/weathered bedrock water bearing zone and will be installed to a total depth approximately 3 to 5 feet into competent rock. The well screen will be 10 feet in length and will typically extend across the till and weathered bedrock interval. Deep wells will be drilled into competent rock and will have a 10-foot screen. The top of the deep well screen will be set approximately 30 feet below the top of competent rock. This depth is proposed such that the screen is set deep enough to be outside the influence of the surficial aquifer / bedrock aquifer interface and to avoid the potential for drawing down surface water. As the borehole is advanced through the competent bedrock, the geologist onsite will coordinate with the driller to identify any weak drilling zones and will examine the drill core for any natural fracture zones. These fracture zones may act as preferential transport pathways and the well screen depth may be adjusted to target these zones. Lastly the depth of these wells will be based on field conditions and may be deeper if the bedrock aquifer does not have sufficient yield to obtain a water sample.

We look forward to discussing this further. For questions, please contact Jim Moore at 917-790-8230 or James.T.Moore@usace.army.mil.



Chemical Name	Abbreviation	CAS Number
Perfluorooctanesulfonic acid	PFOS	1763-23-1
Perfluorooctanoic acid	PFOA	335-67-1

Notes:
1) All lab results validated. Valid qualifiers shown.
2) PFOA and PFOS bolded when above EPA HA of 70 ng/L.
3) Local groundwater flow direction at SEAD 25 is radial. Predominant groundwater flow direction in the area of this figure is to the west and southwest.
4) Flow in drainage pipes and ditches is to the south, west, and southwest.
5) Wells shown in the inset near the former Fire Training Pad were sampled during the 2017 Site Investigation (SI).
ng/L = nanograms per liter
ND = Not Detected, J = Estimated, J+ = Estimated, possibly biased high

SENECA ARMY DEPOT ACTIVITY
SEAD 25 and SEAD 26 PFAS ESI

FIGURE 1 - SEAD 25 and Fire House
PFAS ESI PFOS/PFOA Results - December 2019

1 in = 400 ft | January 2020

\\MABOS07FS01\Projects\PIT\Projects\Huntsville WERS\Seneca LTM, TO 23J02 - GIS\PFAS\ESI\SEAD25FH_PFAS_ESI_ValidResults_121719.mxd lxh 1/7/2020

Notes:
1) All lab results are validated. Valid qualifiers shown.
2) PFOA and PFOS bolded when above 70 ng/L.
3) The source area near the former bentonite lined pit was initially investigated during the Site Investigation (SI) using temporary well (TMW) locations and grab samples in 2017. These data points are shown on Figure 2B.
ng/L = nanograms per liter
ND = Not Detected, J = Estimated

Chemical Name	Abbreviation	CAS Number
Perfluorooctanesulfonic acid	PFOS	1763-23-1
Perfluorooctanoic acid	PFOA	335-67-1

MW26-12	ng/L	
PFOS	ND	
PFOA	0.52	J

MW26-13	ng/L	
PFOS	ND	
PFOA	7.9	

MW26-14	ng/L	
PFOS	6.2	
PFOA	4.5	

MW26-18	ng/L	
PFOS	11	
PFOA	18	

MW26-15	ng/L	
PFOS	ND	
PFOA	0.54	J

MW26-16	ng/L	
PFOS	**785**	J
PFOA	**330**	J+

MW26-17	ng/L	
PFOS	ND	
PFOA	3.7	

MW26-20	ng/L	
PFOS	9.75	J
PFOA	24.5	

Storage Area
Burned Automobiles
Trailer
Fire Tower
Former Bentonite Lined Pit
Autos
Helicopter Fuselage
Former Drum Storage Area
Containers
Drums
Dumpster
742
741
740
739
738
737
736
735
734
733
732
731
730
729
728

Legend

- Groundwater Flow Direction
- Oct 2019 GW Contour (1ft interval)
- Surface Water Flow Direction
- Stormwater Drainage
- Railways
- Fenceline
- Approximate PID Area Boundary

Monitoring Wells

- PFAS ESI Phase I
- PFAS ESI Phase II

Well MW26-20 is approximately 900ft downgradient of MW26-

0 75 150 300 450 600 Feet

0 375 750 1,500 Feet

SENECA ARMY DEPOT ACTIVITY
SEAD 25 and SEAD 26 PFAS ESI

FIGURE 2A - SEAD 26 PFAS ESI
PFOS/PFOA Results

1 in = 150 ft | January 2020

\\MABOS07FS01\Projects\PIT\Projects\Huntsville WERS\Seneca LTM, TO 23\02 - GIS\PFAS\ESI\Fig 2A_SEAD26_PFAS_ESI_ValidResults_121719.mxd lxh 1/9/2020

Notes:
1) All lab results are validated. Valid qualifiers shown.
2) PFOA and PFOS bolded when above 70 ng/L.
3) Groundwater samples were collected from 1-inch temporary well points. Due to the low volume of water within the wells and limited recharge, grab samples were collected. The data collection method is of a different quality than standard low flow sampling at permanent wells.
4) Groundwater contours generated using data from the permanent wells shown in Figure 2A.
ng/L = nanograms per liter
ND = Not Detected, J = Estimated

Chemical Name	Abbreviation	CAS Number
Perfluorooctanesulfonic acid	PFOS	1763-23-1
Perfluorooctanoic acid	PFOA	335-67-1

TMW-26-1	ng/L
PFOS	4.9 J
PFOA	1.3 J

TMW-26-2	ng/L
PFOS	64
PFOA	**79**

TMW-26-3	ng/L
PFOS	**240**
PFOA	**340**

TMW-26-4	ng/L
PFOS	4.9
PFOA	41

TMW-26-5	ng/L
PFOS	3 J
PFOA	3.6

TMW-26-6	ng/L
PFOS	3.5 J
PFOA	**170**

TMW-26-7	ng/L
PFOS	2 J
PFOA	**240**

TMW-26-8	ng/L
PFOS	8.8
PFOA	11

TMW26-1
TMW26-2
TMW26-3
TMW26-4
TMW26-5
TMW26-6
TMW26-7
TMW26-8

Storage Area
Trailer
Fire Tower
Burned Automobiles
Former Bentonite Lined Pit
Autos
Helicopter Fuselage
Former Drum Storage Area
Dumpster
Containers
Drums

742
741
740
739
738
737
736
735
734
733
732
731
730
728

N
E
S
W

Legend

- Groundwater Flow Direction
- Oct 2019 GW Contour (1ft interval)
- Surface Water Flow Direction
- Stormwater Drainage
- Railways
- Fenceline
- Approximate PID Area Boundary

Monitoring Wells

- PFAS SI

0 75 150 300 450 600 Feet

SENECA ARMY DEPOT ACTIVITY
SEAD 25 and SEAD 26 PFAS ESI

FIGURE 2B - SEAD 26 PFAS SI
PFOS/PFOA Results

1 in = 150 ft | January 2020

\\MABOS07FS01\Projects\PIT\Projects\Huntsville WERS\Seneca LTM, TO 23\02 - GIS\PFAS\ESI\Fig 2B_SEAD26_PFAS_ESI_ValidResults_121719.mxd lxh 1/9/2020

748000 749000 750000 751000 752000

1000000 999000 998000 997000

SEAD 25 Former Fire Training Pad Area

Note: Stormwater flow within infrastructure in the Admin area is towards the south and west. Underground pipes in the Admin area transition to an open drainage ditch near MW25-20. Overland flow is towards the southwest.

MW25-6 MW25-17 MW25-19 RA Excavated Area MW25-18 MW25-8 SB25-18 MW25-3 SB25-19 MW25-1 MW25-2 MW25-31/D MW25-9 SB25-17 MW25-15 MW25-10

0 25 50 100 150 200 Feet

N W E S

SEAD-16 Local GW Flow Direction MW25-30 SW25-01 MW25-20 Surface Water Flow Direction SEAD-17 Local GW Flow Direction MW25-29 SW25-02 MW25-21 SB25-18 MW25-31/D SB25-19 SB25-17 See Inset

Ordnance Road MW25-22D MW25-22 MW25-23 SW25-04 MW25-27 MW25-26 SW25-05 MW25-28 Surface Water Flow Direction Ordnance Road

MWFH-06 MWFH-08 MWFH-07 SBFH-03 East Patrol Road MWFH-09/D MWFH-05 East Patrol Road MWFH-04 SBFH-01 SBFH-02 MWFH-01 MWFH-02 MWFH-03

MWFH-10/D SWFH-03 SW-FH02 SWFH-01 MW25-25 MW25-33 MW25-24

Surface Water Flow Direction SW25-03 State Highway 96 East Patrol Road

1st Street Administration Avenue

SW25-06 MW25-32 MW25-34/D

0 200 400 800 1,200 1,600 Feet

Notes:
1) Local shallow groundwater flow direction at SEAD 25 is radial. Predominant groundwater flow direction in the area of this figure is to the west and southwest.
2) Flow in drainage pipes and ditches is to the south, west, and southwest.
3) All sampling locations tentative based on accessibility and field conditions. MWFH-10/D will be installed if bedrock impacts are observed at the Fire House or SEAD 25 shallow/bedrock pairs.

Legend

- Major Drainage
- Minor Drainage
- Fire House
- SEAD Boundary
- Approximate PID Area Boundary
- Surface Water Flow Direction
- Groundwater Flow Direction

Proposed Samples

- Shallow Well
- Shallow/Bedrock Well Pair
- Bedrock Well
- Surface Water Sample
- Soil Sample

Existing Wells

- PFAS SI
- PFAS ESI Phase I
- PFAS ESI Phase II

SENECA ARMY DEPOT ACTIVITY
SEAD 25 and SEAD 26 PFAS ESI

FIGURE 3 - SEAD 25 and Fire House Proposed Sampling Locations - April 2020

1 in = 400 ft	April 2020

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747000 748000 749000 750000 751000

994000 993000 992000 991000

N W E S

SEAD 26 FormerTraining Area

Fire Tower
Trailer
Containers
Burned Automobiles
Drums
Former Bentonite Lined Pit
Storage Area
Autos
Helicopter Fuselage
Former Drum Storage Area

MW26-15 MW26-18 MW26-26 SB26-13 MW26-13 MW26-27 MW26-12 MW26-16 MW26-28/D SB26-14 SB26-15 MW26-32D SW26-02 MW26-14 MW26-17 MW26-29 SB26-16 MW26-30 SB26-17 SW26-01 MW26-19 MW26-31 SW26-05 SW26-03 MW26-21 SW26-04 MW26-23 MW26-20 MW26-24/D MW26-22 MW26-25

0 75 150 300 450 600 Feet

0 200 400 800 1,200 1,600 Feet

Notes:
1) Predominant groundwater flow direction in the area of this figure is to the west.
2) Flow in drainage ditches surrounding SEAD 26 is to the north and south feeding into drainage ditches flowing to the west.
3) All sampling locations tentative based on accessibility and field conditions. The locations of MW26-23, MW26-24/D and MW26-25 will be finalized after the results of MW26-21 and MW26-22 are received.

Legend

- Major Drainage
- Minor Drainage
- SEAD Boundary
- Approximate PID Area Boundary
- Surface Water Flow Direction
- Groundwater Flow Direction

Proposed Samples

- Shallow Well
- Shallow/Bedrock Well Pair
- Bedrock Well
- Surface Water Sample
- Soil Sample

Existing Wells

- PFAS ESI Phase I
- PFAS ESI Phase II

SENECA ARMY DEPOT ACTIVITY
SEAD 25 and SEAD 26 PFAS ESI

FIGURE 4 - SEAD 26
Proposed Sampling Locations - April 2020

1 in = 400 ft	April 2020

\\MABOS07FS01\Projects\PITProjects\Huntsville WERS\Seneca LTM, TO 23J02 - GIS\PFAS\ESI\SEAD26_PFAS_ESI_ProposedSampling_032320v1.mxd lxh 4/2/2020

Table 1
Fire House
ESI PFAS GW Results
Seneca Army Depot Activity

Area							FIRE HOUSE		FIRE HOUSE		FIRE HOUSE		FIRE HOUSE		FIRE HOUSE		FIRE HOUSE	
Loc ID							MWFH-01		MWFH-02		MWFH-02		MWFH-03		MWFH-04		MWFH-04		MWFH-05	
Matrix							GW		GW		GW		GW		GW		GW		GW	
Sample ID							FHESI20001		FHESI20002		FHESI20004		FHESI20003		FHESI20005		FHESI20007		FHESI20006	
Sample Date							5/24/2019		5/24/2019		5/24/2019		10/16/2019		10/16/2019		10/16/2019		10/18/2019	
QC Type							SA		SA		DU		SA		SA		DU		SA	
Study ID							2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI	
Parameter	Unit	Max Detected Value		Num of Detects	Num of Analyses	Action Level	Num of Detects Above Standard-1	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual	Value	Qual
Per- and polyfluoroalkyl substances (PFAS)																					
6:2 FTS	NG/L	6,200		6	7			160		7.4	J	6.7	J	19	U	5,000		6,200		260	J
8:2 FTS	NG/L	2,100		3	7			27		9.5	U	9.4	U	9.7	U	1,900	J	2,100		190	U
N-ethyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	7			9.4	U	9.5	U	9.4	U	9.7	U	980	U	1,000	U	190	U
N-methyl perfluorooctane sulfonamidoacetic acid	NG/L	4	J	1	7			4	J	9.5	U	9.4	U	9.7	U	980	U	1,000	U	190	U
Perfluorobutanesulfonic acid (PFBS)	NG/L	87		6	7			24		5.1		4.8		0.97	U	53	J	55	J	87	
Perfluorobutyric acid (PFBA)	NG/L	350		7	7			75		12		11	J-	27		350		340		260	
Perfluorodecanesulfonic acid (PFDS)	NG/L	0		0	7			1.4	U	1.4	U	1.4	U	1.5	U	150	U	150	U	29	U
Perfluorodecanoic acid (PFDA)	NG/L	0.5	J	1	7			0.5	J	0.95	U	0.94	U	0.97	U	98	U	100	U	19	U
Perfluorododecanoic acid (PFDoA)	NG/L	0		0	7			1.4	U	1.4	U	1.4	U	1.5	U	150	U	150	U	29	U
Perfluoroheptanesulfonic Acid (PFHpS)	NG/L	48	J	5	7			4.7		0.35	J	0.94	U	0.97	U	39	J	48	J	16	J
Perfluoroheptanoic acid (PFHpA)	NG/L	630		7	7			99		15		16		1	J	630		630		510	
Perfluorohexanesulfonic acid (PFHxS)	NG/L	1,800		7	7			300	J	40		37		0.94	J	1,200		1,200		1,800	
Perfluorohexanoic acid (PFHxA)	NG/L	980		7	7			280	J	35		32		10		920		980		820	
Perfluorononanoic acid (PFNA)	NG/L	150	J	4	7			7.5		1.4	U	1.4	U	1.5	U	150	J	140	J	42	
Perfluorooctane Sulfonamide (FOSA)	NG/L	8.3		1	7			8.3		2.8	U	2.8	U	2.9	U	290	U	300	U	58	U
Perfluorooctanesulfonic acid (PFOS)	NG/L	4,600	J+	6	7			220		7.4		6.3		2.9	U	3,800	J+	4,600	J+	440	J+
Perfluorooctanoic acid (PFOA)	NG/L	4,100	J+	7	7			210	J	23		22		2.3		1,300	J+	1,300	J+	4,100	J+
Perfluoropentanoic acid (PFPA)	NG/L	1,200		7	7			240		37		37		20		1,200		1,200		860	
Perfluorotetradecanoic acid (PFTeA)	NG/L	0		0	7			2.8	U	2.8	U	2.8	U	2.9	U	290	U	300	U	58	U
Perfluorotridecanoic Acid (PFTriA)	NG/L	0		0	7			2.8	U	2.8	U	2.8	U	2.9	U	290	U	300	U	58	U
Perfluoroundecanoic acid (PFUnA)	NG/L	0		0	7			1.4	U	1.4	U	1.4	U	1.5	U	150	U	150	U	29	U
PFOS + PFOA Summation	NG/L	5,900	J	7	7	70	4	**430**	**J**	30.4		28.3		5.2		**5100**	**J**	**5900**	**J**	**4540**	**J**

Footnotes:

1) Number of Analyses is the number of detected and non-detected results. Sample duplicate pairs have not been averaged.

2) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) during the data validation.

[blank] = detect, i.e. detected chemical result value.

U = non-detect, i.e. not detected at or above this value.

J+ = The result is an estimated quantity, but the result may be biased high.

J = estimated detected value due to a concetration below the reporting limit or due to discrepancies in meeting certain analyte-specific quality control.

UJ=The compound was not detected: however, the results is estimated because of discrepancies in meeting certain analyte-specific QC criteria.

J- = The result is an estimated quantity, but the result may be biased low.

3) Chemical results greater than or equal to the action level (depending on criteria) are highlighted based on the Criteria that are present.

- Bold values represent a results that is above EPA Drinking Water Health Advisory. ####

4) Criteria action level source document and web address.

- The EPA EPA PFOA & PFOS Drinking Water Health Advisory values were obtained from the provided links.

https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos

Table 2
SEAD-25
ESI PFAS GW Results
Seneca Army Depot Activity

Area								SEAD-25		SEAD-25		SEAD-25		SEAD-25		SEAD-25		SEAD-25	
Loc ID								MW25-20		MW25-20		MW25-21		MW25-22		MW25-23		MW25-23		MW25-24	
Matrix								GW		GW		GW		GW		GW		GW		GW	
Sample ID								25ESI20001		25ESI20007		25ESI20002		25ESI20003		25ESI20004		25ESI20008		25ESI20005	
Sample Date								5/28/2019		5/28/2019		5/31/2019		5/29/2019		5/29/2019		5/29/2019		5/30/2019	
QC Type								SA		DU		SA		SA		SA		DU		SA	
Study ID								2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI	
Parameter	Unit	Max Detected Value		Num of Detects	Num of Analyses	Action Level	Num of Detects Above Standard-1	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Per- and polyfluoroalkyl substances (PFAS)																					
6:2 FTS	NG/L	0		0	14			19	U	19	U	19	UJ	19	U	19	U	19	UJ	19	U
8:2 FTS	NG/L	0		0	14			9.4	U	9.6	U	9.4	UJ	9.3	U	9.4	U	9.5	UJ	9.6	U
N-ethyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	14			9.4	U	9.6	U	9.4	UJ	9.3	U	9.4	U	9.5	UJ	9.6	U
N-methyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	14			9.4	U	9.6	U	9.4	UJ	9.3	U	9.4	U	9.5	UJ	9.6	U
Perfluorobutanesulfonic acid (PFBS)	NG/L	58	J	8	14			1.8	J	1.8	J	58	J	51		0.94	U	0.95	UJ	0.78	J
Perfluorobutyric acid (PFBA)	NG/L	58	J	12	14			6.3		6.3		58	J	43		4.4		4.6	J	6.7	
Perfluorodecanesulfonic acid (PFDS)	NG/L	0		0	14			1.4	U	1.4	U	1.4	UJ	1.4	U	1.4	U	1.4	UJ	1.4	U
Perfluorodecanoic acid (PFDA)	NG/L	0		0	14			0.94	U	0.96	U	0.94	UJ	0.93	U	0.94	U	0.95	UJ	0.96	U
Perfluorododecanoic acid (PFDoA)	NG/L	0		0	14			1.4	U	1.4	U	1.4	UJ	1.4	U	1.4	U	1.4	UJ	1.4	U
Perfluoroheptanesulfonic Acid (PFHpS)	NG/L	5.5	J	2	14			0.94	U	0.96	U	5.5	J	0.92	J	0.94	U	0.95	UJ	0.96	U
Perfluoroheptanoic acid (PFHpA)	NG/L	32		9	14			1.8	J	1.8	J	28	J	32		0.62	J	0.69	J	4.4	
Perfluorohexanesulfonic acid (PFHxS)	NG/L	510	J	11	14			8.2		8.4		310	J	510	J	0.94	U	0.95	UJ	9.2	
Perfluorohexanoic acid (PFHxA)	NG/L	280	J	11	14			6.4		6.9		250	J	280	J	3		2.6	J	7.3	
Perfluorononanoic acid (PFNA)	NG/L	1.2	J	5	14			1.4	U	1.4	U	0.5	J	0.69	J	1.4	U	1.4	UJ	0.5	J
Perfluorooctane Sulfonamide (FOSA)	NG/L	0		0	14			2.8	U	2.9	U	2.8	UJ	2.8	U	2.8	U	2.9	UJ	2.9	U
Perfluorooctanesulfonic acid (PFOS)	NG/L	140	J	5	14			2.8	U	2.9	U	140	J	16	J	2.8	U	2.9	UJ	11	
Perfluorooctanoic acid (PFOA)	NG/L	1,000	J+	12	14			8.7		7.6		720	J	1,000	J+	3		3.7	J	3.7	
Perfluoropentanoic acid (PFPA)	NG/L	110	J	10	14			6.7		6.1		110	J	89		4.4		4.3	J	9.1	
Perfluorotetradecanoic acid (PFTeA)	NG/L	0		0	14			2.8	U	2.9	U	2.8	UJ	2.8	U	2.8	U	2.9	UJ	2.9	U
Perfluorotridecanoic Acid (PFTriA)	NG/L	0		0	14			2.8	U	2.9	U	2.8	UJ	2.8	U	2.8	U	2.9	UJ	2.9	U
Perfluoroundecanoic acid (PFUnA)	NG/L	0		0	14			1.4	U	1.4	U	1.4	UJ	1.4	U	1.4	U	1.4	UJ	1.4	U
PFOS + PFOA Summation	NG/L	1,016	J	12	14	70	2	11.5		10.5		**860**	**J**	**1016**	**J**	5.8		6.6	J	14.7	

Footnotes:

1) Number of Analyses is the number of detected and non-detected results. Sample duplicate pairs have not been averaged.

2) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) during the data validation.
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- Bold values represent a results that is above EPA Drinking Water Health Advisory. ####

4) Criteria action level source document and web address.
- The EPA EPA PFOA & PFOS Drinking Water Health Advisory values were obtained from the provided links.
https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos

Table 2
SEAD-25
ESI PFAS GW Results
Seneca Army Depot Activity

Area								SEAD-25		SEAD-25		SEAD-25		SEAD-25		SEAD-25		SEAD-25	
Loc ID								MW25-25		MW25-26		MW25-27		MW25-28		MW25-28		MW25-29		MW25-30	
Matrix								GW		GW		GW		GW		GW		GW		GW	
Sample ID								25ESI20006		25ESI20009		25ESI20010		25ESI20011		25ESI20014		25ESI20012		25ESI20013	
Sample Date								5/30/2019		10/17/2019		10/16/2019		10/18/2019		10/18/2019		10/17/2019		10/17/2019	
QC Type								SA		SA		SA		SA		DU		SA		SA	
Study ID								2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI	
Parameter	Unit	Max Detected Value		Num of Detects	Num of Analyses	Action Level	Num of Detects Above Standard-1	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Per- and polyfluoroalkyl substances (PFAS)																					
6:2 FTS	NG/L	0		0	14			19	U	19	U	19	U	20	U	20	U	20	U	19	U
8:2 FTS	NG/L	0		0	14			9.4	U	9.6	U	9.6	U	9.8	U	10	U	9.8	U	9.7	U
N-ethyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	14			9.4	U	9.6	U	9.6	U	9.8	U	10	U	9.8	U	9.7	U
N-methyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	14			9.4	U	9.6	U	9.6	U	9.8	U	10	U	9.8	U	9.7	U
Perfluorobutanesulfonic acid (PFBS)	NG/L	58	J	8	14			0.78	J	0.96	U	0.96	U	1.2	J	0.97	J	0.98	U	0.97	U
Perfluorobutyric acid (PFBA)	NG/L	58	J	12	14			4.1		2.3	U	20		10		9.7		2	U	4.2	
Perfluorodecanesulfonic acid (PFDS)	NG/L	0		0	14			1.4	U	1.4	U	1.4	U	1.5	U	1.5	U	1.5	U	1.4	U
Perfluorodecanoic acid (PFDA)	NG/L	0		0	14			0.94	U	0.96	U	0.96	U	0.98	U	1	U	0.98	U	0.97	U
Perfluorododecanoic acid (PFDoA)	NG/L	0		0	14			1.4	U	1.4	U	1.4	U	1.5	U	1.5	U	1.5	U	1.4	U
Perfluoroheptanesulfonic Acid (PFHpS)	NG/L	5.5	J	2	14			0.94	U	0.96	U	0.96	U	0.98	U	1	U	0.98	U	0.97	U
Perfluoroheptanoic acid (PFHpA)	NG/L	32		9	14			1.4	U	1.4	U	1.4	U	4.5		4		1.5	U	1.4	U
Perfluorohexanesulfonic acid (PFHxS)	NG/L	510	J	11	14			3.3		0.96	U	0.43	J	12		11		0.37	J	0.48	J
Perfluorohexanoic acid (PFHxA)	NG/L	280	J	11	14			0.54	J	0.96	U	1.4	J	10		9.6		0.98	U	0.97	U
Perfluorononanoic acid (PFNA)	NG/L	1.2	J	5	14			1.4	U	1.4	U	1.4	U	1.2	J	1.2	J	1.5	U	1.4	U
Perfluorooctane Sulfonamide (FOSA)	NG/L	0		0	14			2.8	U	2.9	U	2.9	U	2.9	U	3	U	2.9	U	2.9	U
Perfluorooctanesulfonic acid (PFOS)	NG/L	140	J	5	14			2.8	U	2.9	U	2.9	U	7.9		8.3		2.9	U	2.9	U
Perfluorooctanoic acid (PFOA)	NG/L	1,000	J+	12	14			0.79	J	1.4	U	0.94	J	11		11		0.53	J	1.4	U
Perfluoropentanoic acid (PFPA)	NG/L	110	J	10	14			0.94	U	0.96	U	1.4	J	11		9.8		0.98	U	1.9	U
Perfluorotetradecanoic acid (PFTeA)	NG/L	0		0	14			2.8	U	2.9	U	2.9	U	2.9	U	3	U	2.9	U	2.9	U
Perfluorotridecanoic Acid (PFTriA)	NG/L	0		0	14			2.8	U	2.9	U	2.9	U	2.9	U	3	U	2.9	U	2.9	U
Perfluoroundecanoic acid (PFUnA)	NG/L	0		0	14			1.4	U	1.4	U	1.4	U	1.5	U	1.5	U	1.5	U	1.4	U
PFOS + PFOA Summation	NG/L	1,016	J	12	14	70	2	3.59	J	4.3	U	3.84	J	18.9		19.3		3.43	J	4.3	U

Footnotes:

1) Number of Analyses is the number of detected and non-detected results. Sample duplicate pairs have not been averaged.

2) Chemical result qualifiers are assigned by the laboratory and are evaluated and modified (if necessary) during the data validation.
[blank] = detect, i.e. detected chemical result value.
U = non-detect, i.e. not detected at or above this value.
J+ = The result is an estimated quantity, but the result may be biased high.
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3) Chemical results greater than or equal to the action level (depending on criteria) are highlighted based on the Criteria that are present.
- Bold values represent a results that is above EPA Drinking Water Health Advisory. ####

4) Criteria action level source document and web address.
- The EPA EPA PFOA & PFOS Drinking Water Health Advisory values were obtained from the provided links.
https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos

Table 3
SEAD-26
ESI PFAS GW Results
Seneca Army Depot Activity

Area								SEAD-26		SEAD-26		SEAD-26		SEAD-26		SEAD-26		SEAD-26	
Loc ID								MW26-12		MW26-13		MW26-14		MW26-15		MW26-16		MW26-16	
Matrix								GW		GW		GW		GW		GW		GW	
Sample ID								26ESI20001		26ESI20002		26ESI20003		26ESI20004		26ESI20005		26ESI20007	
Sample Date								5/31/2019		5/30/2019		5/31/2019		5/31/2019		5/31/2019		5/31/2019	
QC Type								SA		SA		SA		SA		SA		DU	
Study ID								2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI	
Parameter	Unit	Max Detected Value		Num of Detects	Num of Analyses	Action Level	Num of Detects Above	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q	Value	Q
Per- and polyfluoroalkyl substances (PFAS)																			
6:2 FTS	NG/L	35	J	4	10			19	U	8.8	J	19	U	19	UJ	29	J	35	J
8:2 FTS	NG/L	0		0	10			9.5	U	9.6	U	9.5	U	9.4	UJ	9.5	U	9.5	UJ
N-ethyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	10			9.5	U	9.6	U	9.5	U	9.4	UJ	9.5	U	9.5	UJ
N-methyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	10			9.5	U	9.6	U	9.5	U	9.4	UJ	9.5	U	9.5	UJ
Perfluorobutanesulfonic acid (PFBS)	NG/L	48		8	10			0.95	U	1	J	3		0.94	UJ	48		46	J
Perfluorobutyric acid (PFBA)	NG/L	220		8	10			1.4	U	63		18		1.4	UJ	220		210	J
Perfluorodecanesulfonic acid (PFDS)	NG/L	0		0	10			1.4	U	1.4	U	1.4	U	1.4	UJ	1.4	U	1.4	UJ
Perfluorodecanoic acid (PFDA)	NG/L	0		0	10			0.95	U	0.96	U	0.95	U	0.94	UJ	0.95	U	0.95	UJ
Perfluorododecanoic acid (PFDoA)	NG/L	0		0	10			1.4	U	1.4	U	1.4	U	1.4	UJ	1.4	U	1.4	UJ
Perfluoroheptanesulfonic Acid (PFHpS)	NG/L	14		4	10			0.95	U	0.96	U	0.95	U	0.94	UJ	14		12	J
Perfluoroheptanoic acid (PFHpA)	NG/L	360		8	10			1.4	U	21		5.5		1.4	UJ	360		340	J
Perfluorohexanesulfonic acid (PFHxS)	NG/L	610		7	10			0.95	U	11		12		0.94	UJ	610		610	J
Perfluorohexanoic acid (PFHxA)	NG/L	660	J	9	10			0.48	J	69		26		0.94	UJ	650		660	J
Perfluorononanoic acid (PFNA)	NG/L	38	J	3	10			1.4	U	1.4	U	1.4	U	1.4	UJ	37		38	J
Perfluorooctane Sulfonamide (FOSA)	NG/L	0		0	10			2.9	U	2.9	U	2.9	U	2.8	UJ	2.8	U	2.8	UJ
Perfluorooctanesulfonic acid (PFOS)	NG/L	800	J	6	10			2.9	U	2.9	U	6.2		2.8	UJ	770		800	J
Perfluorooctanoic acid (PFOA)	NG/L	330	J+	10	10			0.52	J	7.9		4.5		0.54	J	330	J+	330	J
Perfluoropentanoic acid (PFPA)	NG/L	720		9	10			0.64	J	120		20		0.94	UJ	720		720	J
Perfluorotetradecanoic acid (PFTeA)	NG/L	0		0	10			2.9	U	2.9	U	2.9	U	2.8	UJ	2.8	U	2.8	UJ
Perfluorotridecanoic Acid (PFTriA)	NG/L	0		0	10			2.9	U	2.9	U	2.9	U	2.8	UJ	2.8	U	2.8	UJ
Perfluoroundecanoic acid (PFUnA)	NG/L	0		0	10			1.4	U	1.4	U	1.4	U	1.4	UJ	1.4	U	1.4	UJ
PFOS + PFOA Summation	NG/L	1,130	J	10	10	70	2	3.42	J	10.8		10.7		3.34	J	**1100**	**J**	**1130**	**J**

Footnotes:

1) Number of Analyses is the number of detected and non-detected results. Sample duplicate pairs have not been averaged.

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4) Criteria action level source document and web address.
- The EPA EPA PFOA & PFOS Drinking Water Health Advisory values were obtained from the provided links.
https://www.epa.gov/ground-water-and-drinking-water/drinking-water-health-advisories-pfoa-and-pfos

Table 3
SEAD-26
ESI PFAS GW Results
Seneca Army Depot Activity

Area								SEAD-26		SEAD-26		SEAD-26		SEAD-26	
Loc ID								MW26-17		MW26-18		MW26-20		MW26-20	
Matrix								GW		GW		GW		GW	
Sample ID								26ESI20006		26ESI20008		26ESI20010		26ESI20012	
Sample Date								5/31/2019		10/17/2019		10/18/2019		10/18/2019	
QC Type								SA		SA		SA		DU	
Study ID								2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI		2019 PFAS ESI	
Parameter	Unit	Max Detected Value		Num of Detects	Num of Analyses	Action Level	Num of Detects Above	Value	Q	Value	Q	Value	Q	Value	Q
Per- and polyfluoroalkyl substances (PFAS)															
6:2 FTS	NG/L	35	J	4	10			19	U	12	J	19	U	20	U
8:2 FTS	NG/L	0		0	10			9.5	U	9.8	U	9.7	U	9.9	U
N-ethyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	10			9.5	U	9.8	U	9.7	U	9.9	U
N-methyl perfluorooctane sulfonamidoacetic acid	NG/L	0		0	10			9.5	U	9.8	U	9.7	U	9.9	U
Perfluorobutanesulfonic acid (PFBS)	NG/L	48		8	10			0.56	J	3.8		23		24	
Perfluorobutyric acid (PFBA)	NG/L	220		8	10			33		54		160		160	
Perfluorodecanesulfonic acid (PFDS)	NG/L	0		0	10			1.4	U	1.5	U	1.5	U	1.5	U
Perfluorodecanoic acid (PFDA)	NG/L	0		0	10			0.95	U	0.98	U	0.97	U	0.99	U
Perfluorododecanoic acid (PFDoA)	NG/L	0		0	10			1.4	U	1.5	U	1.5	U	1.5	U
Perfluoroheptanesulfonic Acid (PFHpS)	NG/L	14		4	10			0.95	U	0.98	U	0.47	J	0.59	J
Perfluoroheptanoic acid (PFHpA)	NG/L	360		8	10			15		28		74		77	
Perfluorohexanesulfonic acid (PFHxS)	NG/L	610		7	10			0.95	U	20		120		120	
Perfluorohexanoic acid (PFHxA)	NG/L	660	J	9	10			83		69		240		250	
Perfluorononanoic acid (PFNA)	NG/L	38	J	3	10			1.4	U	0.61	J	1.5	U	1.5	U
Perfluorooctane Sulfonamide (FOSA)	NG/L	0		0	10			2.8	U	2.9	U	2.9	U	3	U
Perfluorooctanesulfonic acid (PFOS)	NG/L	800	J	6	10			2.8	U	11		9.5	J	10	J
Perfluorooctanoic acid (PFOA)	NG/L	330	J+	10	10			3.7		18		24		25	
Perfluoropentanoic acid (PFPA)	NG/L	720		9	10			130		130		340		350	
Perfluorotetradecanoic acid (PFTeA)	NG/L	0		0	10			2.8	U	2.9	U	2.9	U	3	U
Perfluorotridecanoic Acid (PFTriA)	NG/L	0		0	10			2.8	U	2.9	U	2.9	U	3	U
Perfluoroundecanoic acid (PFUnA)	NG/L	0		0	10			1.4	U	1.5	U	1.5	U	1.5	U
PFOS + PFOA Summation	NG/L	1,130	J	10	10	70	2	6.5		29		33.5		35	

Footnotes:

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[blank] = detect, i.e. detected chemical result value.
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Table 4
Well Construction Details
PFAS ESI
Seneca Army Depot Activity

Site	Well ID	Easting	Northing	Well Installation Date	Ground Elevation (ft)	TOC Elevation (ft)	Well Depth (ft BGS)	Screen length (ft)	Screen Interval (ft BGS)
Fire House	MWFH-01	752049.49	999522.45	5/9/2019	753.59	753.34	15.00	10	5-15
Fire House	MWFH-02	751993.03	999412.58	5/9/2019	752.49	752.32	15.00	10	5-15
Fire House	MWFH-03	752255.46	999435.95	5/9/2019	752.95	752.48	15.00	10	5-15
Fire House	MWFH-04	751952.14	999706.22	9/10/2019	753.23	752.94	18.50	10	8-18
Fire House	MWFH-05	752174.07	999766.04	9/13/2019	755.68	755.56	20.50	10	10-20
SEAD-25	MW25-1	751123.93	998030.66	12/3/1995	740.30	743.00	7.53	1	3.1-4.1
SEAD-25	MW25-2	750974.61	998024.30	11/7/1993	743.80	746.36	11.02	4	3.4-7.4
SEAD-25	MW25-3	750926.49	998079.43	11/7/1993	743.30	746.34	NR	2	4-6
SEAD-25	MW25-6	751007.56	998276.99	9/25/1995	742.20	744.44	13.97	6.8	4.3-11.1
SEAD-25	MW25-8	750855.55	998077.31	9/26/1995	741.40	742.46	5.16	0.8	3.2-4
SEAD-25	MW25-9	750898.14	998004.15	9/26/1995	741.30	742.36	5.15	0.8	3.2-4
SEAD-25	MW25-10	750999.26	997966.26	9/27/1995	741.80	743.01	6.13	2	3.2-5.2
SEAD-25	MW25-13	750869.38	997864.81	10/11/1995	737.90	739.64	5.25	0.8	2.7-3.5
SEAD-25	MW25-15	750764.54	997972.61	10/10/1995	739.60	741.00	6.96	1.5	3.9-5.4
SEAD-25	MW25-17	750964.19	998188.42	10/16/1995	742.20	743.94	11.02	4.5	4.6-9.1
SEAD-25	MW25-18	751083.15	998116.36	10/16/1995	743.10	744.35	10.91	4.5	4.4-8.9
SEAD-25	MW25-19	750763.18	998136.67	10/7/1995	740.10	741.95	10.93	4.5	5.3-9.8
SEAD-25	MW25-20	750817.95	998381.89	5/10/2019	740.78	740.78	14.20	10	4.2-14.2
SEAD-25	MW25-21	750289.25	997965.70	5/8/2019	732.71	732.44	10.00	5	5-10
SEAD-25	MW25-22	750616.93	997729.83	5/13/2019	733.73	733.70	14.50	10	4.5-14.5
SEAD-25	MW25-23	751122.67	997618.25	5/8/2019	738.59	738.54	15.00	10	5-15
SEAD-25	MW25-24	751884.91	998241.02	5/17/2019	742.89	742.77	10.00	5	5-10
SEAD-25	MW25-25	751510.44	998499.12	5/16/2019	743.93	743.74	10.00	5	5-10
SEAD-25	MW25-26	750780.65	997444.54	9/11/2019	733.56	733.10	14.00	10	4-14
SEAD-25	MW25-27	750335.37	997408.09	9/11/2019	733.71	733.65	15.00	10	5-15
SEAD-25	MW25-28	749900.61	997367.09	9/10/2019	731.33	731.68	13.50	5	6.5-11.5
SEAD-25	MW25-29	749756.27	997963.82	9/11/2019	735.06	734.92	19.00	10	7-17
SEAD-25	MW25-30	750274.55	998536.20	9/13/2019	736.28	736.13	17.00	10	7-17
SEAD-26	MW26-12	751394.83	992289.86	5/14/2019	750.90	750.64	13.00	8	5-13
SEAD-26	MW26-13	751174.55	992370.89	5/13/2019	753.90	753.90	13.00	5	8-13
SEAD-26	MW26-14	751189.79	992104.88	5/14/2019	753.21	753.02	15.00	10	5-15
SEAD-26	MW26-15	750486.01	992470.37	5/15/2019	738.68	738.50	10.00	5	5-10
SEAD-26	MW26-16	750528.32	992217.67	5/15/2019	737.04	736.50	10.00	5	5-10
SEAD-26	MW26-17	750582.89	991952.00	5/16/2019	736.90	736.92	10.00	5	5-10
SEAD-26	MW26-18	750947.81	992478.14	9/16/2019	740.51	740.61	15.00	10	5-15
SEAD-26	MW26-20	749593.83	992246.23	9/12/2019	721.70	721.64	13.50	10	3.5-13.5
SEAD-26	TMW-26-1	751181.99	992926.61	4/19/2017	748.39	751.84	14.00	10	4-14
SEAD-26	TMW-26-2	751292.42	992292.13	4/19/2017	752.43	755.25	10.00	9	1-10
SEAD-26	TMW-26-3	751112.11	992261.53	4/19/2017	751.70	753.34	12.00	10	2-12
SEAD-26	TMW-26-4	751207.53	991605.07	4/19/2017	751.61	755.01	10.00	9	1-10
SEAD-26	TMW-26-5	751102.92	992667.05	4/19/2017	754.18	757.15	14.50	10	4.5-14.5
SEAD-26	TMW-26-6	751102.81	992475.09	4/19/2017	752.29	756.14	14.00	10	4-14
SEAD-26	TMW-26-7	751111.06	991975.13	4/19/2017	752.40	753.70	12.00	10	2-12
SEAD-26	TMW-26-8	751125.86	991711.85	4/19/2017	750.35	752.97	10.00	9	1-10

Footnotes:

1) All wells are 2-inches in diameter and PVC construction

2) Horizontal coordinates referenced to New York State Plane Central (US ft), NAD83. Vertical datum is NAVD88.

3) Temporary wells (TMW26-1 through TMW26-8) were not surveyed. Coordinates are approximate. Ground elevations sourced from USGS Elevation Point Query Service. TOC elevation is approximate.

Table 5
Groundwater Elevation Data
PFAS ESI
Seneca Army Depot Activity

Well	Date Measured	TOC Elevation (ft)	Measured Well Depth (ft Below TOC)	Depth to Groundwater (ft Below TOC)	Groundwater Elevation (ft)	Saturated Thickness (ft)
MWFH-01	10/14/2019	753.34	15.90	9.39	743.95	6.51
MWFH-02	10/14/2019	752.32	14.70	9.41	742.91	5.29
MWFH-03	10/14/2019	752.48	16.01	9.16	743.32	6.85
MWFH-04	10/14/2019	752.94	16.90	8.75	744.19	8.15
MWFH-05	10/14/2019	755.56	19.28	8.93	746.63	10.35
MW25-1	10/14/2019	743.00	7.53	6.96	736.04	0.57
MW25-2	10/14/2019	746.36	11.02	6.47	739.89	4.55
MW25-3	10/14/2019	746.34	NA	NA	NA	NA
MW25-6	10/14/2019	744.44	13.97	9.5	734.94	4.47
MW25-8	10/14/2019	742.46	5.16	5.15	737.31	0.01
MW25-9	10/14/2019	742.36	5.15	5	737.36	0.15
MW25-10	10/14/2019	743.01	6.13	DRY	DRY	DRY
MW25-13	10/14/2019	739.64	5.25	5.05	734.59	0.20
MW25-15	10/14/2019	741.00	6.96	6.95	734.05	0.01
MW25-17	10/14/2019	743.94	11.02	8.35	735.59	2.67
MW25-18	10/14/2019	744.35	10.91	8.01	736.34	2.90
MW25-19	10/14/2019	741.95	10.93	9.65	732.30	1.28
MW25-20	10/14/2019	740.78	13.10	7.11	733.67	5.99
MW25-21	10/14/2019	732.44	8.70	1.08	731.36	7.62
MW25-22	10/14/2019	733.70	14.18	1.7	732.00	12.48
MW25-23	10/14/2019	738.54	13.61	4.79	733.75	8.82
MW25-24	10/14/2019	742.77	9.59	2.59	740.18	7.00
MW25-25	10/14/2019	743.74	9.59	2.17	741.57	7.42
MW25-26	10/14/2019	733.10	13.20	0.5	732.60	12.70
MW25-27	10/14/2019	733.65	14.55	2.1	731.55	12.45
MW25-28	10/14/2019	731.68	13.00	0.38	731.30	12.62
MW25-29	10/14/2019	734.92	16.90	3.35	731.57	13.55
MW25-30	10/14/2019	736.13	16.32	4.64	731.49	11.68
MW26-12	10/14/2019	750.64	13.02	8.64	742.00	4.38
MW26-13	10/14/2019	753.90	12.30	11.33	742.57	0.97
MW26-14	10/14/2019	753.02	14.04	12.06	740.96	1.98
MW26-15	10/14/2019	738.50	9.80	7.3	731.20	2.50
MW26-16	10/14/2019	736.50	9.45	6.84	729.66	2.61
MW26-17	10/14/2019	736.92	8.78	6.37	730.55	2.41
MW26-18	10/14/2019	740.61	13.81	8.04	732.57	5.77
MW26-20	10/14/2019	721.64	12.83	1.45	720.19	11.38

Footnotes:

1) Well MW25-3 was not gauged because of a hornets nest in the metal well casing

2) Well MW25-10 was dry during the gauging event.

3) Vertical datum is NAVD88